



Goat production practices of santal tribe for improving their socio-economic condition and household nutrition

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Goats play an important role in generating income, employment, capital storages and improving household and nutrition of Santals. Goats are inseparably connected with Santal's life style. Santals constitute one of the largest tribes of India and are distributed in the states of Bihar, West Bengal and Odisha. They are very hardy, simple hearted, efficient agriculturists and excellent hunters. Goats being small in size, they do not require large management skills and can be easily handled and managed by women and children. Yet, little is known about different goat husbandry practices of Santal tribe. Keeping these facts in mind, the present paper is an attempt to document different goat husbandry practices of Santal tribe so that it will provide a base for sound extension programme in tribal areas.

The present study was conducted in Binpur block of Medinipur district of West Bengal. Binpur block was selected as it has the highest tribal population (56,608). Binpur is tribal dominated block and landless labourers, marginal farmers and small farmers constitute more than 96% of the total households in the block. It can be mentioned here that on the occasion of the 125th birth anniversary of Mahatma Gandhi, 125 blocks were selected in the entire country as the most backward blocks and Binpur block was identified for that purpose. From Binpur block, villages namely Kodopur, Nayanagora, Krishnapur and Asthajuri were selected by simple random sampling without replacement technique. From each village, all heads of Santal households formed the sample of the study. So, 102 respondents constituted the sample of the study.

Since the respondents were tribal and generally illiterate people, the observational technique supported by case study method, diary writing and personal interview schedule were used to collect the data. The specially constructed interview schedule contains goat rearing practices including breeding,

feeding, management, health care and marketing in a systematic manner from birth to death of an animal, so that full life cycle of a goat was covered.

The collected data were checked and put in proper format for coding in IBM sheets. For making simple comparisons, the frequency tables were constructed and percentages were calculated.

Flock size: The average flock size of the study area was 7.13 (SD=4.56), out of which 2.25 (SD=1.34) are does, 0.34 (SD=0.53) are bucks, 2.14 (SD=1.40) are young goats and 2.04 (SD= 1.78) are kids.

Kid rearing: It is conspicuous from the present that majority of Santals (96.08%) allowed kids to suckle colostrum, whereas 3.92% Santals did not allow the kid to suckle colostrum as they believe that it is very thick, and so it may cause diarrhoea to kids. Thus, they threw away the first few drops of colostrums. The study revealed that majority of Santals (94.12%) cleaned mucous from the mouth and nostrils of kids, whereas 5.88% did not clean mucous from mouth and nostrils of kids. Female members in the family (mother and wife) generally clean mucous from mouth and nostrils of kids with the help of a cloth as it was reported by 94.12% Santals. It was evident from the study that 61.76% Santals offered candy dissolved in water in addition to kid's mother milk, whereas 38.24% Santals have offered rice gruel in addition to kids mother milk. For bedding materials, 52.94% Santals used dry leaves for kids, 26.47% Santals used paddy straw as bedding materials for kids, and 10.67% used gunny bags as bedding materials for kids. Only 3.92% Santals did not use any bedding materials for kids. The average age of kid to take green fodder for the first time was 1.85 (SD=0.48) months. The average age of castration of kid was 4.61 months (SD=1.01).

Reproduction: The average age of puberty in female goat was 10.05 (SD=1.70) months. The average age of male goat used for breeding purposes for the first time was 5.79 months (SD=2.89). It can be mentioned here that male mates with female in the forest during grazing time. So Santals do not maintain any male and female ratio in the flock for breeding purposes.

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The average number of pregnant goats with a farmer was 2.07 (SD=1.19), out of which 1.90 (SD= 1.03) gave birth to kids, whereas 0.17 (SD=0.37) number of goats aborted foetus. It can be mentioned here that abortions are mainly due to mechanical injury. That is due to throwing of stone to pregnant goats in the forest or due to physical injury by beating with a stick. The average age at first kidding was 15.87(SD=2.02) months. The average kidding interval of the study area was 6.79 (SD= 0.41) months. The average number of kids born per doe was 1.98 (SD=0.44), out of which average 1.89 (SD= 0.39) number of live kids were born and 0.09 (SD= 0.19) number of dead kids were born. It can be mentioned here that on an average 0.40 (SD= 0.34) number of kids died within 7 days.

Feeding: All Santals reported that they release the goats in the morning and they go to the forest for grazing. It was found that 74.51% Santals indicated that goats eat piyasal (*Pterocarpus marsupium*), sal (*Shorea robusta*), gammar (*Gmelina arborea*), banyan (*Ficus benghalensis*) and jack fruit (*Artocarpus integrifolia*) tree leaves whereas 25.49% Santals mentioned that goats eat siris (*Albizia lebbek*), atar, piyasal (*Pterocarpus marsupium*) and sal. In a study, Kathiravan and Selvam (2011) studied that the major constraints of goat production was lack of fodder and grazing facilities. The average duration of grazing time was 9.11 h (SD=0.56) in summer, 6.21 (SD=0.43) in rainy season and 6.63 h (SD=0.54) in winter.

The results of the study showed that majority of Santals (79.42%) have offered broken rice and rice gruel as supplementary feeding in addition to grazing, 6.86% Santals indicated that they have supplemented only rice gruel in addition to grazing, whereas 13.72% Santals reported that they did not supplement any feed materials in addition to grazing.

Arrangements made for rainy season: During rainy season, goats cannot go for grazing in the forest. The owners of goats cut different tree leaves and hang these at home for the goats to feed upon. Santals (83.33%) mentioned that they cut a branch of jackfruit tree (*Artocarpus* sp.) and banyan tree (*Ficus benghalensis*) and hang it at home and goats eat their leaves whereas 16.67% Santals indicated that they cut a branch of *aswatha* tree (*Ficus religiosa*) and piyasal (*Pterocarpus marsupium*) and hang it at home and goats eat their leaves. Majority of Santals (73.53%) of the study area indicated that goats share same houses with owner, only 26.47% Santals mentioned that they have constructed separate shed for goats.

Protection from wild animals: The majority of Santals (98.64%) reported that goats are occasionally killed by wild animals (mainly by Hura that is one kind of fox) and only 1.96% Santals indicated that there was no killing by wild animals.

As goats go to the forest for grazing, Santals have adopted several preventive measures to protect their goats against the wild life. Findings of the present study revealed that 96.08% Santals practised tying of 'thorka' in the neck of the goats during grazing time. When the goat moves,

'thorka' makes a sound. When there is any attack by wild animals, the goat runs into the forest, the owner of a goat can locate the goat in the forest with the help of the sound of *thorka*, the owner goes inside the forest and kills wild animals by bow and arrow. They have also adopted preventive measures like killing of wild animals by trapping. Only 3.92% Santals reported that they did not allow goats to go for grazing in the forest, when there are more instances of killing by wild animals.

General care of goats: Female members in the family (mother and wife) and children look after the goats. Similar finding were reported by Kaul (1991) and Panin and Mahabile (1997). Prabu *et al.* (2011) revealed that the goat enterprise was a profitable income generating avenue in the dry land areas of Tamil Nadu. Hence, improvements in their production level will have direct bearing on the socio economic status of landless, marginal and small farmers and thereby the overall economic development of the region.

Marketing: Marketing activities in Fekohaat, Binpurhaat and Belpahari haat revealed that those who came for selling of goats (sellers) have to pay ₹ 5 as registration fees or entry fees to the lease holder of haats. After registration, the sellers hold goats either by hand or they hold a rope in hand which they tie in the neck of animals. It is a kind of bargaining where seller wants to sell the animals at high prices whereas buyer wants to purchase the animals at low prices. So the price of animals is generally fixed after negotiation between seller and buyer. The price of an animal depends upon age, sex and approximate body weight during selling time. It can be noted here that castrated goat fetches higher prices as compared to non-castrated male goats (bucks) and does. In a study, Kumar *et al.* (2014) specified an important impetus in selection of breeding bucks of Black Bengal breed.

In addition to the physical characteristics of an animal, price also depends upon season and festivals. The price of an animal is generally high during festivals and during paddy harvesting time, whereas price of an animal is generally low during slack season particularly in August, September and October when there is no work at hand.

It can be mentioned here that some middlemen and prosperous farmers (well-to-do- farmers) purchase the animals at low cost in slack period from haat and keep the animals for a period of 2 to 3 months and sell these animals during harvesting time. But within this short period, they earn a good amount of money.

Mostly Santals (77.46%) sold their goats to middlemen, 13.72% Santals sold to chevon shop, 6.86% Santals sold directly to buyers as such live goat and only 1.96% Santals sold directly to consumers as chevon. The average selling price per kg live weight was ₹ 89.36 (SD=2.70). The average age of slaughtering was 10.42 months (SD=2.70). The approximate body weight of a goat during slaughtering time was 8.24 kg (SD=0.82). The majority of Santals (95.09%) indicated that they guess the weight of a goat by pressing the waist of a goat and the rest (4.91) by lifting the hind legs of a goat.

Goat health care: Santals rarely avail modern veterinary facilities for treatment of their goats. When goats suffer from any ailments, they go to the *Ojha* (Village medicine man). The *Ojha* treats the patient with the help of roots, leaves or barks of different medicinal plants. His services are free and he never charges any fees from the livestock owner. This skill is transmitted from generation to generation. They also believe in sorcery and propitiation.

The major important goat diseases in the locality are contagious ecthyma, diarrhoea, respiratory problems, cutaneous problems, anorexia and miscellaneous diseases.

Comparison of Santal and Lodha tribe with respect to goat rearing practices: In the study area, both Santal and Lodha tribes live. So, a comparison was made between Santal and Lodha tribe with respect to goat rearing practices. Majority of Santals (96.08%) allowed to suckle colostrum to the kids, whereas only 34.86% Lodhas allowed to suckle colostrum to their kids. The majority of Lodhas (76.92%) did not clean mucous from the mouth and nostrils of kids, whereas majority of Santals (94.12%) cleaned mucous from the mouth and nostrils of kids. So, it can be said that Santals adopted more improved managerial practices as compared to Lodhas.

Comparative information on goat rearing practices of Santal with other non-tribal communities: In the study area, the majority of non-tribal communities have constructed separate shed for their goats whereas the majority of Santals (73.53%) shared same houses with owner. So it indicated that goats are inseparably connected with Santal's life style. Regarding health care, the majority of non-tribal communities sought veterinary help for treatment of their goats whereas the majority of Santals contacted *Ojha* (village medicine man) for treatment of their goats.

SUMMARY

A study was conducted in randomly selected 4 villages

of Binpur block of Medinipur district of West Bengal among 102 Santals to document different goat husbandry practices of Santal tribe. Average number of goats reared by Santals was 7.13 (SD=4.56) per family and the breed reared was Black Bengal goat. They reared the goats under free range system and goats were kept in same houses with owner during night time (73.52%). The majority of Santals (78.43%) offered broken rice and rice gruel in addition to grazing to the goats. They reared the goats mainly for meat and to meet financial exigencies. The average age of slaughtering was 10.42 months (SD=2.70) and the average selling price per kg live weight was ₹ 89.30 (SD=2.70). They sold the goats during festivals and at the time of paying tuition fees and treatment of sick members of the family. Bucks were sacrificed during religious ceremonies but castrated goats were left out for this purpose. The major important goat diseases were contagious ecthyma, diarrhoea and respiratory problems.

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